

**COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
DIVISION OF WATER QUALITY PROGRAMS  
ELLEN GILINSKY, Ph.D., DIRECTOR**

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**Subject:** Guidance Memorandum No. 07-2011  
Issuing a Certificate to Construct from a Final Engineering Report

**To:** Regional Directors

**From:** Ellen Gilinsky



**Date:** July 30, 2007

**Copies:** James Golden, Rick Weeks, RO Water Permit Managers, Office of Wastewater Engineering Staff

**Summary:**

With the adoption of nutrient wasteload allocations for dischargers in the Chesapeake Bay Watershed and the compliance date of December 31, 2010, a large number of facilities are scheduling major construction projects in order to meet this deadline. This compressed project schedule has resulted in a backlog of projects for issuance of a Certificate to Construct (CTC) which effectively results in a delay in the start of construction.

The purpose of this guidance is to provide a method that may facilitate the start of construction projects. This procedure is available only for nutrient projects in the Chesapeake Bay watershed and only at the request of the owner. Use of this process must be approved by the Office of Wastewater Engineering Technical Program Manager.

The procedure allows for issuance of a Certificate to Construct (CTC) from a Final Engineering Report as opposed to waiting until the engineering plans and specifications are complete. This procedure does not relieve the owner from producing the plans and specifications, but does allow the owner to begin purchasing long-lead equipment items and initiate construction before the final documents are completed and approved.

**Electronic Copy:**

An electronic copy of this guidance in PDF format is available for staff internally on DEQNET, and for the general public on DEQ's website at: <http://www.deq.virginia.gov>.

**Contact information:**

Please contact Marcia J. Degen, Technical Program Manager for OWE, at 540-562-3500/6753 or by email at [mjdegen@deq.virginia.gov](mailto:mjdegen@deq.virginia.gov) if there are any questions.

**Disclaimer:**

**This document is provided as guidance and, as such, sets forth standard operating procedures for the agency. However, it does not mandate any particular method nor does**

**it prohibit any particular method for the analysis of data, establishment of a wasteload allocation, or establishment of a permit limit. If alternative proposals are made, such proposals should be reviewed and accepted or denied based on their technical adequacy and compliance with appropriate laws and regulations.**

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### *Issuance of a Certificate to Construct from a Final Engineering Report*

9 VAC 25-790-80.B states that “A formal technical evaluation of submitted documents prior to issuance of a permit in accordance with this chapter may be waived following a review of the preliminary engineering proposal or concept provided that the owner’s consultant submits a statement that the design will meet the requirements established through this chapter and standards contained in this chapter.” Based on this, OWE has the option to issue a Certificate to Construct (CTC) based on a comprehensive preliminary engineering report, prior to the submittal of completed plans and specifications as provided for by 9 VAC 25-790-80.B. While this option was intended for less complicated projects, OWE will utilize a similar procedure for complex nutrient construction projects under certain conditions.

First, due to the complexity of the projects, a traditional preliminary engineering report (PER) is still required as it provides a logical procedure for evaluating and selecting the appropriate alternative. A PER is also required if any funding agency is involved.

Second, after the appropriate alternative has been selected, the engineer develops a comprehensive engineering report. This report has been named the Final Engineering Report (FER) to distinguish it from the more generic PER. The FER is essentially final design calculations with some additional information as described below.

This process is to be utilized only for facilities in the Chesapeake Bay watershed undergoing nutrient upgrades and at the request of the owner. Use of this process must be approved by the Office of Wastewater Engineering Technical Program Manager. This process will only be used until January 1, 2011. The advantage of this process is that a CTC is issued to the owner more quickly and the review of the full plans and specifications does not delay the construction process.

The following stipulations apply to this process.

1. A detailed design report, termed a Final Engineering Report (FER), must be submitted with the request for a CTC. This design report should consolidate the final design decisions from the PER and present the design calculations in a document separate from the PER.
2. The FER must address the requirements of the *Sewage Collection and Treatment Regulations*. Specific information to be included in the FER as a minimum follows:
  - a. Design flow justification (average and peak)
  - b. Influent characterization
  - c. Design calculations for all units (including tank volumes, dimensions, mixing calculations, aeration calculations (average and peak), flow rates, velocity (where appropriate), etc.)
  - d. Up flow rates, pump sizing, blower sizing
  - e. Hydraulic profile

- f. Flow schematic
  - g. Site plan - including buffers, roads, walkways, water
  - h. Description of any lab or building improvements made
  - i. Functional description of alarms, control systems, backup power
  - j. Model simulations, such as BioWin, to justify design where applicable
  - k. A statement that the design is in compliance with the requirements of the *Sewage Collection and Treatment Regulations*
3. At least 180 days prior to completion of the construction, a complete set of plans and specifications will be submitted to OWE for review.
  4. A Certificate to Operate (CTO) will not be issued until the complete and final design submittal including plans and specifications has been reviewed and approved.
  5. Any components in the final plans and specifications that do not meet the requirements of the *Sewage Collection and Treatment Regulations (9 VAC 25-790)* must be corrected regardless of their construction status. It is anticipated that the FER will provide sufficient detail that compliance with the regulations can be determined at that point. However, if changes are made or additional detail is provided that indicates non-compliance with the regulations, the owner is obligated to make corrections.
  6. No waivers will be provided unless specifically approved in the original CTC based on the FER.

Upon review and approval of the FER, a CTC will be issued.